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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,591	09/19/2003	Michael Wu	CISCP349/7876	3645

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EXAMINER
HO, CHUONG T

ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/664,591	WU ET AL.
	Examiner	Art Unit	
	CHUONG T. HO	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   The amendment filed 08/27/07 have been entered and made of record.

2.   Applicant's arguments with respect to claims 1-24 have been considered but are

moot in view of the new ground(s) of rejection.

3.   Claim 1-24 are presented for examination.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-9, 11-19, 21-22, 23-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Chase et al. (7,092,389) in view of Havala (US 2005/0053079 A1).

As to claim 1, Chase et al. discloses receiving frames at a gateway device (figure

5, ATM switch 30), comprising: receiving a frame at a metro Ethernet gateway (figure 1

(PER 18), figure 5 (ATM switch 30)) coupled to a metro Ethernet network (figure 1,

metro network 10) and an external network (figure 5, ATM network, ATM 32-4, 32-5, FR

(frame relay) FR 32-1, FR 32-2, FR 32-3);

The frame (figure 2) having an outer tag value (figure 2, VLAN tag 23) identifying a

customer site in a metro Ethernet network, an inner tag values (figure 2, VLAN priority

and VLAN tagid, customer descriptor 22'), an Ethernet packet header (figure 2,

preamble, destination address, source address), and an Ethernet packet payload (figure 2, data field 21);

Determining that the inner tag value identifies a service (ATM, Frame Relay, or IMA) provisioned for customer site (col. 5, lines 30-38, The ATM switch 30 then maps each frame to the appropriate PVC in accordance with the customer descriptor 22' in the frame in a manner similar to the mapping described with respect to FIG. 3. Thus, the ATM switch 30 could map the frame to one of Frame Relay recipients' 32.sub.1, 32.sub.2, or 32.sub.3, ATM recipients 32.sub.4 or 32.sub.5 or IMA (Inverse Multiplexing over ATM) recipient 32.sub.6).

However, Chase et al. are silent to disclosing replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.

Havala discloses replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.(page 3, [0040] [0042], conversion of VLAN packet to an MPLS packet, figure 3, [0042] if the label is found, the subrouter 123 replace the tag 152 of the VLAN packet 150 with forwarding label 158, VPN label 156).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network taught by Havala into the system of Chase. One would have been motivated to do so to be able to interwork between a broadcast domain and a point-to-point circuit based domain.

6.   As to claim 11, Chase et al. discloses a gateway device (figure 5, ATM switch 30)

coupled to an external network (figure 5, ATM, frame relay, IMA); a metro Ethernet

network interface coupled to a metro Ethernet network (figure 1, metro network, figure

5, shared Ethernet trunk in metro network), the frame having an outer tag value (figure

2, VLAN flag), an inner tag value (figure 2, VLAN priority and VLAN tagid) an Ethernet

header (figure 2, preamble, destination address, source address), and an Ethernet

packet payload (figure 2, data field 21);

Wherein the outer tag value (figure 2, VLAN tag 23) identifies a customer site in a metro

Ethernet network;

A processor operable to determine that the inner tag value (figure 2, customer

descriptor 22') identifies a service (figure 5, ATM, Frame relay, IMA) provisioned for the

customer site (col. 5, lines 30-38, The ATM switch 30 then maps each frame to the

appropriate PVC in accordance with the customer descriptor 22' in the frame in a

manner similar to the mapping described with respect to FIG. 3. Thus, the ATM switch

30 could map the frame to one of Frame Relay recipients' 32.sub.1, 32.sub.2, or

32.sub.3, ATM recipients 32.sub.4 or 32.sub.5 or IMA (Inverse Multiplexing over ATM)

recipient 32.sub.6).

However, Chase et al. are silent to disclosing replacing the outer tag and the

inner tag with one or more identifiers for transmission onto the external network.

Havala discloses replacing the outer tag and the inner tag with one or more

identifiers for transmission onto the external network.(page 3, [0040] [0042], conversion

of VLAN packet to an MPLS packet, figure 3, [0042] if the label is found, the subrouter

123 replace the tag 152 of the VLAN packet 150 with forwarding label 158, VPN label

156).

Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to incorporate replacing the outer tag and the inner tag with one or more

identifiers for transmission onto the external network taught by Havala into the system

of Chase. One would have been motivated to do so to be able to interwork between a

broadcast domain and a point-to-point circuit based domain.

7.   As to claim 21, Chase et al. discloses a network node (figure 1, PER 18, figure 5,

ATM switch 30), comprising: means for receiving a frame at the network node coupled

to a metro Ethernet network (figure 1, metro network, figure 5, shared Ethernet trunk in

metro network) and an external network (figure 5, ATM, Frame relay, IMA), the frame

having an outer tag value (figure 2, VLAN tag 23) identifying a customer site in a metro

Ethernet network, an inner tag values (figure 2, VLAN priority and VLAN tagid, customer

descriptor 22'), an Ethernet packet header (figure 2, preamble, destination address,

source address), and an Ethernet packet payload (figure 2, data field 21);

Means for determining that the inner tag value (ATM, Frame Relay, or IMA) provisioned

for customer site (col. 5, lines 30-38, The ATM switch 30 then maps each frame to the

appropriate PVC in accordance with the customer descriptor 22' in the frame in a

manner similar to the mapping described with respect to FIG. 3. Thus, the ATM switch

30 could map the frame to one of Frame Relay recipients' 32.sub.1, 32.sub.2, or

32.sub.3, ATM recipients 32.sub.4 or 32.sub.5 or IMA (Inverse Multiplexing over ATM)

recipient 32.sub.6).

However, Chase et al. are silent to disclosing replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.

Havala discloses replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.(page 3, [0040] [0042], conversion of VLAN packet to an MPLS packet, figure 3, [0042] if the label is found, the subrouter 123 replace the tag 152 of the VLAN packet 150 with forwarding label 158, VPN label 156).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network taught by Havala into the system of Chase. One would have been motivated to do so to be able to interwork between a broadcast domain and a point-to-point circuit based domain.

8.   As to claim 23, Chase et al. discloses receiving a frame at a metro Ethernet gateway (figure 1, PER 18, figure 5, ATM switch 30) coupled to a metro Ethernet network (figure 1, metro network 10) and an external network (figure 5, ATM network, ATM 32-4, 32-5, FR (frame relay) FR 32-1, FR 32-2, FR 32-3);

The frame having an outer tag value (figure 2, VLAN tag 23) identifying a customer site in a metro Ethernet network, an inner tag values (figure 2, VLAN priority and VLAN tagid, customer descriptor 22'), an Ethernet packet header (figure 2, preamble, destination address, source address), and an Ethernet packet payload (figure 2, data field 21);

Means for determining that the inner tag value (ATM, Frame Relay, or IMA) provisioned

for customer site (col. 5, lines 30-38, The ATM switch 30 then maps each frame to the

appropriate PVC in accordance with the customer descriptor 22' in the frame in a

manner similar to the mapping described with respect to FIG. 3. Thus, the ATM switch

30 could map the frame to one of Frame Relay recipients' 32.sub.1, 32.sub.2, or

32.sub.3, ATM recipients 32.sub.4 or 32.sub.5 or IMA (Inverse Multiplexing over ATM)

recipient 32.sub.6).

However, Chase et al. are silent to disclosing replacing the outer tag and the

inner tag with one or more identifiers for transmission onto the external network.

Havala discloses replacing the outer tag and the inner tag with one or more

identifiers for transmission onto the external network.(page 3, [0040] [0042], conversion

of VLAN packet to an MPLS packet, figure 3, [0042] if the label is found, the subrouter

123 replace the tag 152 of the VLAN packet 150 with forwarding label 158, VPN label

156).

Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to incorporate replacing the outer tag and the inner tag with one or more

identifiers for transmission onto the external network taught by Havala into the system

of Chase. One would have been motivated to do so to be able to interwork between a

broadcast domain and a point-to-point circuit based domain.

9.   As to claim 2, Chase et al. discloses determining that the inner tag identifies a

service (figure 5, ATM, Frame relay, IMA) provisioned for the customer comprises

determining if the inner tag (figure 2, customer descriptor 22') has reserved value (figure

2, VLAN priority and VLAN tagid, customer descriptor 22') (col. 3, lines 56-62).

10.   As to claim 3, Chase et al. discloses wherein the external network is an ATM

network (figure 5, ATM, Frame relay, IMA).

11.   As to claim 4, Chase et al. discloses wherein the inner tag value identifies a

service (figure 5, ATM, Frame relay, IMA) provisioned for the customer and virtual

circuit associated with an ATM network (col. 5, lines 20-25, lines 35-38).

12.   As to claim 5, Chase et al. discloses wherein the one or more identifiers are used

to specify the virtual circuit (col. 5, lines 20-25, lines 35-38).

13.   As to claim 6, Chase et al. discloses wherein the external network is an IP

network (see abstract, An Ethernet Metropolitan Area Network (10) provides

connectivity to one or more customer premises (16.sub.1,16.sub.2,16.sub.3) to packet-

based services, such as ATM, Frame Relay, or IP, while advantageously providing a

mechanism for assuring security and regulation of customer traffic. Upon receipt of each

customer-generated information frame (20), an ingress Multi-Service Platform (MSP)

(12.sub.2) "tags" the frame with a customer descriptor (22') that specifically identifies

the recipient customer. In practice, the MSP tags each frame by overwriting the Virtual

Local Area Network (VLAN) identifier (22) with the customer descriptor. Using the

customer descriptor in each frame, a recipient Provider Edge Router (PER) (18) or ATM

switch can map the information as appropriate to direct the information to the specific

customer at its receiving site. In addition, the customer descriptor (22') may also include

Quality of Service (QoS) information, allowing the recipient Provider Edge Router (PER)

(18) or ATM switch to afford the appropriate QoS level accordingly. Each Ethernet

switch may advantageously overwrite the VLAN identifier at an incoming port with a

second tag associated with an egress port to increase the scale associated with single

switch).

14.   As to claim 7, Chase et al. discloses the inner tag value identifies a provisioned

IP network service (abstract, An Ethernet Metropolitan Area Network (10) provides

connectivity to one or more customer premises (16.sub.1,16.sub.2,16.sub.3) to packet-

based services, such as ATM, Frame Relay, or IP, while advantageously providing a

mechanism for assuring security and regulation of customer traffic. Upon receipt of each

customer-generated information frame (20), an ingress Multi-Service Platform (MSP)

(12.sub.2) "tags" the frame with a customer descriptor (22') that specifically identifies

the recipient customer. In practice, the MSP tags each frame by overwriting the Virtual

Local Area Network (VLAN) identifier (22) with the customer descriptor. Using the

customer descriptor in each frame, a recipient Provider Edge Router (PER) (18) or ATM

switch can map the information as appropriate to direct the information to the specific

customer at its receiving site. In addition, the customer descriptor (22') may also include

Quality of Service (QoS) information, allowing the recipient Provider Edge Router (PER)

(18) or ATM switch to afford the appropriate QoS level accordingly. Each Ethernet

switch may advantageously overwrite the VLAN identifier at an incoming port with a

second tag associated with an egress port to increase the scale associated with single

switch).

15.   As to claim 8, Havala et al. discloses wherein the outer tag and the inner tag are

replaced with one or more identifiers for tunneling to an IP network ([0040] [0042]).

16.   As to claim 9, Havala et al. discloses wherein the metro Ethernet network is

multiport layer 2 virtual private network ([0040] [0042]).

17.   As to claim 12, claim 12 is rejected the same reasons of claim 2 above.

18.   As to claim 13, claim 13 is rejected the same reasons of claim 3 above.

19.   As to claim 14, claim 14 is rejected the same reasons of claim 4 above.

20.   As to claim 15, claim 15 is rejected the same reasons of claim 5 above.

21.   As to claim 16, claim 16 is rejected the same reasons of claim 6 above.

22.   As to claim 17, claim 17 is rejected the same reasons of claim 7 above.

23.   As to claim 18, claim 18 is rejected the same reasons of claim 8 above.

24.   As to claim 19, claim 19 is rejected the same reasons of claim 9 above.

25.   As to claim 22, claim 22 is rejected the same reasons of claim 2 above.

26.   As to claim 24, claim 24 is rejected the same reasons of claim 2 above.

Claim Rejections - 35 USC § 103

27.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

28.   Claims 10, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the combined system (Chase –Havala) in view of Lee (2004/0165600).

As to claim 10, the combined system discloses the limitations of claim 1 above.

However, the combined system (Chase – Havala) are silent to disclosing the inner tag

and outer tags are QinQ tags.

Lee (2004/0165600) discloses the inner tag and outer tags are QinQ tags ([0039], QinQ,

[0015], ATM, MPLS, Frame relay).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to incorporate the inner tag and outer tags are QinQ tags taught by Lee into

the combined system (Chase – Havala). One would have been motivated to do so to

reduce in the needed skill level of operations management personal because the

learning bridge function can now safely be performed at Customer Located Equipment

(CLEs) and controlled by the customer only (page 3, [0021].

29.   As to claim 20, claim 20 is rejected the same reasons of claim 10 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-

3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, ORGAD EDAN can be reached on (571) 272-7884. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/11/07

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SUPERVISORY PATENT EXAMINER